MECHANICAL PERFORMANCE OF LIGHTWEIGHT SANDWICH STRUCTURES BASED ON TRAPEZOIDAL CORRUGATED-CORES

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SUPERVISOR'S DECLARATION

We hereby declare that We have checked this thesis and in our opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Master of Science.

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STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS

σ	Stress
A	Cross sectional area
ε	Strain
E	Elastic modulus
w	Width
x	Length
H	Height
t	Thickness
$^\circ$	Degree angle
δ	Displacement/ deformation
Θ	Angle
Φ	Displacement parameter
λ	Factor dependant on the boundary conditions
P	Load
I	Second moment of area

LIST OF ABBREVIATIONS

2D	Two Dimension
3D	Three Dimension
AL	Aluminium
ASTM	American Society for Testing and Materials
CAE	Computer Aided Engineering
CFRC	Carbon Fibre Reinforced Composite
CFRP	Carbon Fibre Reinforced Polymer
CNC	Computer Numerical Control
CPU	Central Processing Unit
CSM	Chopped Strand Mat
FE	Finite Element
FEM	Finite Element Method
kN	Kilo Newton
LAT	Lateral at tab top
LGM	Lateral gauge middle
LIT	Lateral inside tab top
LTSP	Lattice Truss Sandwich Panel
min	Minute
mm	Millimetre
MPa	Mega Pascal
SQP	Sequential Quadratic Programming
SrPET	Self-Reinforced Poly(Ethylene Terephthalate)
UD	Unidirectional
VeSCo	Ventable Shear Core
WR	Woven Roving